

Returning Sites To Productive Use

Delaware Superfund Success Stories

- Army Creek Landfill
- Delaware Sand & Gravel
- Dover Gas Light Company
- E.I. Dupont Newport
- NCR Corp. (Millsboro Plant)
- New Castle Spill
- Standard Chlorine of Delaware, Inc.
- Tybouts Corner Landfill
- Wildcat Landfill





Army Creek Landfill

A vibrant wildlife area in New Castle, Delaware, has replaced the 47-acre Army Creek Landfill. Filled to capacity with two million cubic yards of municipal refuse, the landfill contaminated the nearby Army Creek and local water supply wells. After discovering the groundwater contamination, EPA added the site to its list of hazardous waste sites needing cleanup in 1983. After the site was listed, EPA determined that construction of a multi-layer cap over the site and a water treatment facility would provide the greatest protection of human health and the environment. A partnership among EPA, local natural resource trustees, the U.S. Fish and Wildlife Service, and the Delaware Division of Fish and Wildlife led to the incorporation of a wildlife area into the design of the cap. Various grains and custom vegetation were planted to encourage migratory birds to feed on the land. Bird boxes were installed along the riparian wetlands of Army Creek to encourage nesting. Gooseberry was planted around the gas vents to provide visual cover as well as a food source. EPA addressed flood problems in low lying areas by modifying the slope and location of discharge pipes from the treatment facility sediment basins to create a standing wetlands. The wetlands prevent erosion and surface water runoff, and provide a habitat for numerous species of plants and animals.



Delaware Sand & Gravel

The Delaware Sand & Gravel Superfund site in New Castle, Delaware, is an example of industrial redevelopment of a former landfill. Between 1968 and 1976, the site owner accepted municipal-type trash and industrial wastes, including drums containing organic and inorganic chemicals. In 1983, EPA added the site to its list of hazardous waste sites needing cleanup. In order to permit reuse of the site, EPA worked with the landfill owner to construct a special "wear-surface" cap over a five-acre portion of the 44-acre landfill. Cleanup at the site included the removal of drums, the venting of landfill gases, and pumping and treating of contaminated groundwater. The "wear surface" cap was designed to withstand daily use as a storage lot for heavy equipment.

Dover Gas Light Company

For nearly a century, the Dover Gas Light Company in Dover, Delaware, processed coal to produce gas that was piped to street lamps in Dover. When the plant closed, most of the structures were demolished, but process materials containing coal tar residues were buried on site. The groundwater and soil were contaminated with volatile organic compounds and creosote-type compounds. In 1989, EPA added the site to its list of hazardous waste sites needing cleanup. Once the site was listed, EPA, the Delaware Department of Natural Resources and Environmental Control, and one of the parties responsible for the contamination worked together to clean up the site which included removing or treating the soil, and treating the groundwater. The site is now an unpaved parking lot that is used by the Delaware State Museum and other nearby businesses.

E.I. Dupont Newport

The E.I. DuPont Newport Superfund site in New Castle County, Delaware, is the home of a pigment manufacturing facility. It comprises two industrial landfills: the 7-acre north landfill and the 15-acre south landfill. From 1902 to 1929, the plant manufactured Lithopone, a white zinc- and barium-based pigment. In 1929, DuPont bought the plant, and over the next several decades phased-out production of Lithopone, in favor of other pigments and dyes. Dupont made other products on

the site, including chromium dioxide, which is still being produced today. The company disposed of metal-laden wastes in the landfills, which contaminated the groundwater and soil, and seeped into adjacent wetlands and the Christina River. In 1990, EPA added the site to its list of hazardous waste sites needing cleanup. The agency selected a cleanup plan which eliminated the contamination at the site, while allowing the plant to remain open. EPA, the state, and the parties responsible for the contamination removed the contaminated soil and sediment, and installed a new water line to residents who were at risk of drinking the contaminated water. Today, Ciba-Geigy owns the pigment plant, and DuPont continues to operate the chromium dioxide manufacturing facility. The state purchased part of the south landfill for a highway construction project.

NCR Corp. (Millsboro Plant)

As bank tellers reach into their cash drawers at the First Omni Bank in Millsboro, Delaware, they may be reminded of a time before the bank was built, and the property was owned by the National Cash Register (NCR) Corporation. For 14 years, NCR made cash registers and other electronic devices on the property. It stored its chemical wastes in improperly lined tanks and pits, causing contamination of the surrounding soil and the groundwater. Nearby residents used the groundwater for drinking. In the early 1980s, First Omni Bank purchased a portion of the property, and built a bank. From 1981 to 1983, under state direction, NCR conducted investigations, which revealed groundwater contamination by volatile organic compounds and chromium. In 1987, EPA added the site to its list of hazardous waste sites needing cleanup. NCR excavated and disposed of 315 cubic yards of lagoon sludge and other wastes. First Omni Bank was able to continue its business during the cleanup, and today more than 700 employees are working at the bank, providing area residents with a convenient location for banking and financial services. The cleanup, and the cooperation among EPA, the state, the bank, and the community, enabled this once heavily-contaminated property to be brought back into use.

New Castle Spill

Employees of the Department of Public Works in New Castle, Delaware, report for work at a newly renovated, turn-of-the-century trolley barn located on a former Superfund site. Witco Chemical Company, a producer of materials in plastic foam, stored large quantities of chemical waste in drums at the southern corner of the six-acre site. A chemical spill led to severe contamination of the soil and groundwater. In 1983, the site was placed on EPA's list of hazardous waste sites needing cleanup. EPA worked with the Delaware Department of Natural Resources and Environmental Control and Witco to develop a plan to clean the site and allow for reuse. A new water line was built to bring drinking water to over 7,000 people who were affected by the groundwater contamination. EPA removed the site from



the list in 1996, and, soon after, Witco Chemical donated the land and the historical trolley barn to the City of New Castle. The city then invested over \$700,000 to completely renovate the building and convert it to office space.

Standard Chlorine of Delaware, Inc.

Standard Chlorine of Delaware, Inc., in Delaware City, Delaware, has manufactured chlorinated benzene compounds, since 1966. Two major chemical spills left chlorobenzenes in groundwater, soil, sediments, and surface water. The contamination posed a threat to people through direct contact with the soil and water. Wetlands and the nearby Red Lion Creek were also threatened by contamination from the spill. In 1987, EPA placed the 46-acre site on its list of hazardous waste sites needing cleanup. Standard Chlorine is continuing operations at the site during cleanup.

Tybouts Corner Landfill Superfund Site

Wildflowers are blooming and a nature habitat is flourishing on land that was once covered with hazardous waste. The 50-acre Tybouts Corner Landfill Superfund site is located in New Castle County, Delaware. The site was a sand and gravel quarry until 1968, when the New Castle Department of Public Works converted it into a landfill that accepted municipal and household waste. The landfill operated until 1971. Contamination was later discovered in two drinking water wells, and, in 1983, EPA added the site to its list of hazardous waste sites needing cleanup. Water lines were installed to bring drinking water to those residents in the area who had depended upon the contaminated wells. EPA and the parties responsible for the contamination developed a



plan to clean the site and prepare it for future use. Wildflowers and other vegetation were planted on top of a protective cap to stabilize the ground and prevent erosion. The land is now providing much needed green space in an otherwise overdeveloped area.

Wildcat Landfill

About two miles south of Dover, Delaware, bald eagles nest along the banks of the St. Jones River in an area formerly covered by tires, trash, and barrels of toxic waste. This area, now called the Wildcat Landfill Superfund site, is a 44-acre landfill that operated for 11 years until the state revoked the facility owners' permit for accepting restricted hazardous wastes. The Delaware Department of Natural Resources and Environmental Control (DNREC) became aware of the problem at the landfill when the hazardous wastes contaminated the soil and the groundwater. In 1983, EPA added the site to its list of hazardous waste sites needing cleanup. EPA and DNREC required several companies responsible for the contamination to clean up the site. EPA approved a cleanup plan that included installing a protective cover and planting a mixture of native plants and wildflowers on top. By 1992, the cleanup and



revegetation of the site was complete. Kent County is evaluating plans to allocate a part of this site as a "greenway," which is an open space for recreational purposes.

For More Information

To learn more about the positive economic, environmental, and social impacts that have occurred at individual recycled Superfund sites, please write to **reuse.info@epa.gov** or contact:

Melissa Friedland

Office of Emergency and Remedial Response U.S. Environmental Protection Agency (703) 603-8864

Or visit the EPA Superfund Program's web site at: http://www.epa.gov/superfund/accomp/redevelop

To learn more about the redevelopment or reuse of Superfund sites, write to reuse.info@epa.gov, or call the Superfund Hotline at 800-553-7672 or (703) 412-3323 (Washington, DC area).